

APPENDIX F

STAKEHOLDER GROUP INPUT

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1. Residential Waste Stakeholder Group

Residential Waste Stakeholder Group Draft Plan Input

On May 23-24, 2001, members of the Residential Waste Stakeholder Group (RWSG) participated in a two day work session. The purpose of this work session was to bring together individuals with diverse viewpoints and experiences regarding residential solid waste management so that, through a facilitated process, they would provide input for the Missouri Solid Waste Management Plan. The session facilitators were Mr. Jerry Wade and Mr. John Tharp, with University of Missouri Extension and Outreach. Staff from the Missouri Department of Natural Resources' Solid Waste Management Program attended, mainly as observers and to manage meeting logistics.

I. Purpose

RWSG members were asked to draft a *Purpose statement* that expressed the reason for developing a residential solid waste management plan. The statement should help guide the development of plan components.

The Purpose statement developed by the RWSG:

The purpose of a residential solid waste management plan is to contribute to the health, well-being and quality of life, at every level of society, by the development of solid waste management systems which are economically, politically, socially, and environmentally effective and efficient.

II. Values and Beliefs

Following development of the purpose statement, RWSG members were asked to express their *Values and Beliefs* regarding management of residential solid waste. The values and beliefs put forth should reflect the principles and guiding factors that undergird people's decisions and actions. This step helped each member think about the foundation for their own decision making, as well as that of the larger group or society as a whole. Developing the purpose, values and beliefs as a group helped the stakeholders build a common ground of understanding and a realization that "we are all in this together."

The values and beliefs expressed by members of the RWSG were these:

- It is the residents' perspective that residential solid waste collection programs are "out of sight, out of mind."
- An efficient residential solid waste management plan includes the 3R's (reduce, reuse and recycle) and must provide services which are affordable for citizens, accessible to all and economically sustainable to providers.

- Change is difficult.
- A clean and beautiful environment is preferable to illegal dump sites and litter, and contributes to property values.
- Education about solid waste management is important and should be included in a residential solid waste plan.
- Government is responsible for ensuring proper solid waste management.
- One size does not fit all.
- Clean air and clean water contribute to a healthy public.
- The residential solid waste collection program fee should be clearly stated to the resident (consumer).
- Waste has to go somewhere.
- Protecting the environment is important.
- People are more likely to make good decisions if they are informed.
- A residential solid waste plan should not include disincentives for people to do the responsible thing.

III. Visions, Actions and Policies organized by Themes:

Vision tells us where we are going; it is our overall sense of direction, the destination. The RWSG was asked to imagine the type of residential waste management system that would be in place in the year 2021, assuming that the best residential waste plan had been developed and implemented between now and then. The end product of this activity is a series of vision statements. Ultimately, the Vision process is fruitful when it leads to development of specific actions that will enable the Vision to be realized.

Vision Themes, or clusters, are groupings of visions with some thread of commonality. The RWSG came up with four themes under which the majority of vision statements would naturally fall. These were:

1. Logistics of waste
2. System management
3. Education
4. Economics

The vision themes could then become the connection to action. In a sense, vision themes can be viewed as action areas. *Actions* are the things that need to be done to move from the present toward one or more of the visions in a vision theme. In solid waste management, many of the needed actions in turn indicate a need for a change in policy or adoption of new policies. For this reason, policies are listed separately from other types of actions.

Group members chose one theme to work with, forming four smaller groups. Each of the four groups developed a list of actions under their chosen theme. This document lists the vision statements as they were grouped under the four themes, followed by the actions and policies that were proposed. Each group was asked to reference the vision statement that would be addressed by the proposed action. This is indicated by a number or series of numbers, in brackets [], following each action, that refer to the list of vision statements in that theme.

Theme 1. Logistics of waste

A. *Visions, year 2021*

1. Trash haulers are looked upon with favor and admiration
2. Waste reduction goals: (three different vision statements from original list)
 - waste generation at 1 pound per person, per day
 - waste generation at 2.5 pounds per person, per day
 - 30% waste diversion
3. All residential solid waste programs are self-funding
4. All landfills are (federal) Subtitle “H” or better
5. Adequate demolition landfills
6. Same truck collects trash and recyclables in one pass
7. All organics are composted in backyard
8. Environmental incentives: deposits on throw away containers
9. Mandatory trash collection and recycling
10. Free, convenient recycling throughout the state
11. 100% participation in all elements of integrated solid waste management system
12. Volume-based trash collection throughout the state
13. Environmental education is part of culture

B. *Actions*

- volume-based collection [12]
- incentives-deposits/bottles [8]
- continued education-waste reduction methods/benefits [1, 2, 13]
- change packer trucks to pick up separated recyclables [6]
- limit waste per household [7, 11, 2]
- more C&D (construction and demolition) landfills, continued compliance [4, 5]
- provide services in all areas of the county, i.e. Green box systems [9, 11, 10, 3]

C. *Policies*

- Missouri (city/government) value and encourage sound waste management practices, including waste reduction
- Toward that end-
 - * State mandates
 - * Local implementation /enforcement and education
 - * Every household must have trash/recycling services
 - * Waste reduction incentives: (Deposits/limits on household trash / volume-based)
 - * Sufficient and compliant disposal facilities

Theme 2. System Management

A. *Visions, year 2021*

1. Volume-based trash collection throughout the state
2. 100% participation in all elements of an integrated solid waste management system
3. Mandatory trash collection and recycling
4. Government becomes most effective recycler in the state
5. Missouri is the leading state in waste management
6. HHW chemicals are replaced by non-toxic alternatives
7. No residential trash burning
8. Manufacturers are responsible for disposal or recycling their products
9. Adequate demolition landfills
10. Effective anti-litter and illegal dumping campaigns throughout Missouri
11. DNR has 20 employees
12. Trash free streams and clean and beautiful countryside
13. All landfills are (federal) Subtitle "H" or better

B. *Actions*

- Funding sources put in place for illegal dumping and litter [12, 10, 2]
- Change voters perspective → legislative action [1, 2, 3, 6, 7, 8]
- Change enforcement priorities [10, 12, 7]
- Regulators concentrate on long-term solutions [ALL]
- DNR ease/strengthen regulations [9, 13]
- Preach/do good neighbor policy, practice what you preach [10, 4, 12, 7]

C. *Policies*

- Advocate environmentally friendly manufacturing and packaging practices.
- All entities have access to solid waste and recycling services
- Reasonable regulations that are enforceable
- Find common values that can lead to realistic goals.

Theme 3. Education

A. *Visions, year 2021*

1. Waste reduction goals: waste generation at 1 pound per person, per day; waste generation at 2.5 pounds per person, per day; 30% waste diversion
2. Environmental education is part of culture and Effective anti-litter and illegal dumping campaigns throughout the state
3. Trash free streams and clean and beautiful countryside
4. No residential trash burning
5. Government becomes most effective recycler in state
6. 100% participation in all elements of integrated solid waste management system

Theme 3. Education (continued)

B. *Actions*

- Appoint DNR state education coordinator [1,2,6]
- Develop uniform educational programs and standards for state [1,2,6]
- Teach how and why – cost versus return [1,2,6]
- Teach the 3Rs (reduce, reuse, recycle) [1,2,6]
- Statewide public education campaign to change behavior on solid waste management recycling and litter [1,2,3,4,6]
- Implementation of educational program through schools, communities, and businesses [1,2,6]
- Teach businesses how to recycle [1,6]
- Educational materials printed and distributed to above groups [1,2,3,4,6]
- Develop local programs on local solid waste management plan elements [1,2,4,6]
- Environmental education becomes part of core curriculum at all schools in all grade levels [1,2,3,4,6]
- Create an effective internal state government waste reduction and recycling program in all state offices [5]
- Coordinate consistency state-wide educational programs (added after initial list was made)

C. *Policies*

- DNR is responsible for developing partnerships among public and private entities to develop and administer state, regional, and local public awareness efforts designed to change environmental behavior.
- Funding for all programs.
- Environmental education becomes part of core curriculum at all schools in all grade levels.
- DNR is responsible for developing recycling programs for all state offices.

Theme 4. Economics

A. *Visions, year 2021*

1. All residential solid waste programs are self funding
2. Same truck collects trash and recyclables in one pass
3. Volume based trash collection throughout state
4. Mandatory trash collection and recycling
5. Efficient collections (not stated as one of the original vision statements)
6. Increase businesses and industries based on recycled products
7. Environmental incentives – has deposit on throw-away containers
8. Market(s) (for recyclables) are sustainable throughout the state

Theme 4. Economics (continued)

B. *Actions*

- Mandate some level of waste collection service [4]
- Economic incentives to encourage recycling and waste reduction [3]
- Change human behavior related to waste habits [7]
- Full cost and incremental cost analysis [1]
- Local ordinances [1, 8]
- Local area study [3]
- Pilot project [3]
- Develop neighbor leadership [3]
- Financial assistance for communities and private haulers for volume based collection programs [3]
- Periodic review of legislative impact on collection/disposal costs (local level) [1, 5]
- Periodic review of recyclable materials marketability [1, 8]
- Mandatory recycling [4]
- Standardize collection services [5]
- Tax incentives, grants for co-collection [5, 7]
- Local end-use market development [6]

C. *Policies*

- Require that each household subscribe to waste collection provided by a qualified waste collector.
- The waste collection system costs are itemized, disclosed and understandable.
- Implement pilot volume-based programs through existing grant programs.

Appendix 1

Residential Waste Stakeholder Group

The following individuals participated in the May 23-24, 2001, work session to provide input for the Missouri Solid Waste Management Plan on managing residential solid waste.

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TIMELINES

Members of the Residential Waste Stakeholders Group and DNR Solid Waste Management Program staff participated in a Timeline exercise at the start of the work session. In this exercise, everyone was asked to jot down significant events on a series of timelines. The three timelines were labeled Personal, National and Solid Waste Management. This exercise helped the group get to know each other, warm-up for the tasks to come and gain some perspective on the relationships of these three areas of their lives.

TIMELINE HEADING	1930's	1940's	1950's	1960's	1970's	1980's	1990's - Now
PERSONAL	1 st of several trip -Ill. to Calif. in Model A Ford- 7 yrs. old Lost \$12.00 savings in bank- Depression Parents born	Born Born Born Born Born Graduate from HS '42 Went in service - 3 yrs-'42-'45	Born Born High School Born Started school First bicycle Moved to Farm	Born High School Military & College Drafted! Graduate College Graduated High School Started work Marriage Came to USA Married Born Began formulating my stellar personality Born Married-Vietnam Graduated High School Good music Joined Navy (avoided draft) Graduated from College Military Service	Paid 1 st Income Taxes Married 1 st Moved to country College College Son born Started working Hawaii First real job Became US Citizen Grew up Got my first horse Navy Born Born Married Remarried Marriage Son Daughter born Left farm To College Motorcycle trip	Married #2 Marriage Moved to Missouri Son born Started own business Professional career College Divorce Remarried College Divorce Voted for Reagan-once Marriage & Kids Divorce Married Divorced (twice) Married (twice) Realized I was very cool High School High School /College /Marriage/Started SWM Career Farm sold New Job To College again	Got married and started generating waste BTG started Career change Career change Kids Moved to MO Son left home Retired Law Enf. Career- began SWM career Retired/volunteer Parent Grandchildren (many) Began work at DNR Son graduated from college Got my latest 50 horses Married/divorced/had kids Marriage Wife died Kids Kids Mother passed away Mid Life Crisis Added to house

TIMELINE HEADING	1930's	1940's	1950's	1960's	1970's	1980's	1990's - Now
NATIONAL	Rural electrification etc. Dust bowl End of the Wild West Shows (West becomes East) Depression	WWII Building boom Emergence of electronics Bomb Baby boom Women enter workforce in large numbers	Industrial growth Interstate highways Urban/Suburban growth 1 st TV dinners and TV, Transistors Sputnik Elvis Rock 'n Roll Howdy Doody	Drug culture Space race The Graduate "Plastics" Cuyahoga River burns Cuban missile crisis Beatles Vietnam Kennedy assassination Man on the Moon Beach Boys Silent Spring - Rachel Carson M.L. King assassinated Laugh-In Fall out shelters! Welfare program begins	DDT banned in US Clean Air, Water Acts Love Canal More Vietnam EPA created 1 st PC marketed Immigration Nixon Long hair Disco I don't remember Satellite news coverage around the world	President Reagan shot MTV mute Energy Crisis Interest rates soar Times Beach Clean Air, Water Act Reagan Era Immigration Chernobyl AIDS Nu wave Internet Punk	No "Gun" in school! HMO's Clinton era End of cold war Air bags Spy plane lands in China AIDS Shift to plastics Internet Immigration Federal budget surplus Times Beach becomes State Park Long hair Bell bottoms CNN Palm Pilot and cell phone Gulf War
SOLID WASTE MANAGEMENT	[1905 1 st Supreme Court decision on solid waste flow control] Hogs in dumps Fresh Kills landfill open (New York)	Refuse burned War time recycling	'51 flood in KC Open dumps Cities begin residential refuse collections You can swim in the lakes County Option Dumping Law	Clean up waterways 1 st sanitary landfills (in Missouri) Backyard burning Silent Spring (book by Rachel Carson) Swim at your own risk Solid Waste Disposal Act	Earth Day US EPA begins Awareness of energy, etc. being finite Environment becomes important State government reorganization – DNR was born State Solid Waste Management Law	Columbia Bottle Bill Started compost site '83 Purchased solid waste business Clean Air Act No pull top cans Garbage barge -late '80s 1 st KC MO curbside ballot	Subtitle D SB 530 KC drop-offs open 2 nd KC curbside ballot Product stewardship KC MO MRF contract signed and failed Trash train Solid waste district activities Bans Carbone decision Flow control struck down Spf. (Springfield) ISWMS voter approved x2 Pending interstate transport of solid waste issues Yard waste banned from l.f.'s Opened recycle business OSHA regs. Shift to plastics 3 rd KC curbside ballot Fresh Kills closes

APPENDIX F

STAKEHOLDER GROUP INPUT

2. Institutional Waste Stakeholder Group

Institutional Waste Stakeholder Group

Draft Plan Input

On October 10-11, 2001, members of the Institutional Waste Stakeholder Group (IWSG) participated in a two day work session. The purpose of this work session was to bring together individuals with diverse viewpoints and experiences regarding institutional solid waste management so that, through a facilitated process, they would provide input for the Missouri Solid Waste Management Plan. The session facilitators were Mr. Jerry Wade and Mr. John Tharp, with University of Missouri Extension and Outreach. Staff from the Missouri Department of Natural Resources' Solid Waste Management Program attended, mainly as observers and to manage meeting logistics.

At the beginning of the work session, Mr. Wade established these Ground Rules:

- Please remember—we are here to deliberate, not debate.
- Allow everyone time to participate, if they so choose.
- Remember to listen with respect—let people finish their statements.

Definition of Institutional Waste

Early in the work session, several group members asked for clarification of the term “Institutional Waste” from department staff to help them better focus their input. Prior to the work session, a specific definition had not been developed. Definitions that were looked at defined this waste stream by listing the type of generators, as in this definition from the *McGraw-Hill Recycling Handbook, 2nd Ed.*:

“Waste materials originating in schools, jails, hospitals, nursing homes, research institutions and public buildings. The materials include packaging materials, food wastes, and disposable products.”

However, entities that may be classified as institutions may also be considered commercial establishments, such as privately owned hospitals; they may have waste streams in common with some industries, such as from the production of manufactured goods by prison industries; they may be involved in construction activities, such as the state’s Design and Construction Division within the Office of Administration. The common thread is that all institutions provide a service that society deems necessary for the public good, be it health care, education, law enforcement or safe drinking water. This perspective is shown in the definition from *Principles of Integrated Solid Waste Management*, published by the American Academy of Environmental Engineers:

“Solid wastes generated by social, charitable, and educational activities (Solid Waste Association of America 1991). (*Institution* is an organization or establishment devoted to the promotion of a cause or program, especially of a public, educational or charitable character; examples include schools, hospitals, universities, museums, prisons/reformatories, etc.; *institutional* would therefore be an organization that is structured so as to function in social, charitable and educational activities[Webster’s 1996])”

Institutions were selected as a type of solid waste stakeholder to reflect the common factors that affect the way they manage waste. A public school, correctional facility or hospital will generate

waste similar to their private counterpart. Public institutions will have similar decision-making processes, regardless of their individual missions, that affect waste management choices. Privately owned institutions also share common decision-making priorities. And, as pointed out by group members, contracting of traditionally public services to private entities, blurs the line between them.

Agenda

The general agenda for the work session was posted:

- 1. Timelines**
- 2. Action Planning**
 - A. Purpose**
 - B. Values and Beliefs**
 - C. Visions**
 - D. Vision Themes**
 - E. Actions**
 - F. Policy**
- 3. Questions and Answers**

1. Timelines

Members of the Institutional Waste Stakeholders Group and DNR Solid Waste Management Program staff participated in a Timeline exercise at the start of the work session. In this exercise, everyone was asked to jot down significant events on a series of timelines. The three timelines were labeled Personal, National and Solid Waste Management. This exercise helped the group get to know each other, warm-up for the tasks to come and gain some perspective on the relationships of these three areas of their lives. The results of this exercise are found in Attachment 2.

2. Action Planning

A. Purpose

IWSG members were asked to draft a *Purpose Statement* expressing the reason(s) for developing an institutional solid waste management plan. The statement should help guide the development of plan components.

The *Purpose Statement* developed by the IWSG:

The purpose of an institutional solid waste management plan is to provide guidance to institutional policy makers for solid waste management initiatives that, when implemented, will result in sustainable efficiencies in resources, economics, ecology and the environment.

B. Values and Beliefs

Following development of the purpose statement, IWSG members were asked to express their *Values and Beliefs* regarding management of institutional solid waste. The values and beliefs put forth should reflect the principles and guiding factors that undergird people's decisions and actions. This step helped each member think about the foundation for their own decision making, as well as that of the larger group or society as a whole. Developing the purpose, values and beliefs as a group helped the stakeholders build a common ground of understanding and a realization that "we are all in this together."

The values and beliefs expressed by members of the IWSG were these:

- Provide our children an opportunity to have what we have or better.
- Informed citizens will make better solid waste management decisions.
- Quality solid waste management needs to be cost efficient.
- The solid waste plan should be long term.
- The plan needs to capture a diversity of orientations to solid waste management.
- There should be respect for our fellow human beings.
- Quality solid waste management by institutions is socially responsible.
- Successful program needs broad support.
- Environmental and economic life cycle should be considered whenever feasible.
- The solid waste management plan needs to accommodate a variety of institutional missions.
- Institutions should do better.
- Resources are limited.
- The solid waste management plan should be understandable, provide for institutional accountability and sense of ownership.
- Respect for the overall environment.
- Apply a systemic change in thinking that takes into account the evolving character of institutions.

C. Visions

Vision tells us where we are going; it is our overall sense of direction, the destination. The IWSG was asked to imagine the type of institutional waste management system that would be in place in the year 2026, assuming that the best institutional waste plan had been developed and implemented between now and then. The end product of this activity is a series of vision statements. Ultimately, the Vision process is fruitful when it leads to development of specific actions that will enable the Vision to be realized.

At a later point in the process, the group was asked to prioritize the vision statements. Each member was given two dots of each color to indicate statements they supported, or those that they personally felt should be eliminated. By limiting the number of dots each participant could use, this process forces the individual to choose which statements they feel are most important. Since vision statements may be made that are not supported by others in the group, this process provides a means to express their opposition. The complete list of vision statements follow, including the dots they received (note: some statements did not receive any dots).

Vision 2026

Green Dot = most important	Yellow Dot = important	Red Dot = support, but not as important as Green, or Yellow	Blue Dot = eliminate
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	Green	Yellow	Red	Blue
Next IWSG meeting in Springfield				•
Same or greater degree of biodiversity in the environment				
Clean air and water		•••	•	
Commercially viable mining of all landfills in Missouri			•	•
Greater profit when less waste is landfilled and when more material is recycled	•	•••••	••	
No trash cans in offices				•
Complementarity between waste generators and users of waste		•	•••••	
Laidlaw truck on display at museum				
50% increase in waste to energy facilities				••••
Recycling containers are larger than dumpsters				•
Federalize all trash haulers				••••• ••••• ••••• ••••• •••••
Aquatic systems support a wide variety of life				
Natural disposal			•	
Integrated into education system	••••• ••••	••••• •	••••	
47.2% increase in green space		•	•	
Cost of products include recycling costs	•	••	••	
Responsible purchasing practices	••	••	••	
Green procurement is routine and drives product manufacturer responsibility	••••• •••	•••	••••• •	
80% of all vehicles use alternative fuel	•	••	•••	
80% reduction in paper usage	•••	•		
Zero waste	••	•	•	•
Government mandates regarding solid waste management are no longer necessary			••••	••
Composting facilities tailor-made to institutional needs		•		
Ongoing sustainability is a reality in an optimistic public	•	•	••	
Institutions are providing leadership in solid waste management	••••	••••• ••	••	
Number of landfills reduced by 50%				
Government sponsored recycling program paid for by tipping fees	•••			•
Happy solid waste management personnel and public at large				
Biodegradable packaging is a way of life	•••••	•	•••	

D, E and F. Visions, Actions and Policies Organized by Themes

Vision Themes, or clusters, are groupings of visions with some thread of commonality. The IWSG came up with five themes under which the majority of vision statements would naturally fall. These were:

1. **Reduced Waste Stream**
2. **Role of Government**
3. **Economics and Procurement**
4. **Education – Public Awareness – Lifestyle**
5. **Green Planning**
6. **Environment**

The vision themes could then become the connection to action. In a sense, vision themes can be viewed as action areas. *Actions* are the things that need to be done to move from the present toward one or more of the visions in a vision theme. In solid waste management, many of the needed actions in turn indicate a need for a change in policy or adoption of new policies. For this reason, policies are listed separately from other types of actions.

Group members chose one theme to work with, forming four smaller groups (no interest was shown to work on the Green Planning and Environment themes). Each of the four groups developed a list of actions under their chosen theme. Following this step, each of the four groups wrote policy statements they felt were necessary to implement the most important action in their list: one for state government and one for institutions. At this point, all group members were given the colored dots described above to indicate support or opposition to vision statements or proposed actions. This document lists the vision statements as they were grouped under the four themes, followed by the actions and policies that were proposed.

Theme 1. Reduce Waste Stream

A. *Visions, year 2026*

	Green	Yellow	Red	Blue
Commercially viable mining of all landfills in Missouri (1 red, 1 blue)			•	•
No trash cans in offices (1 blue)				•
50% increase in waste to energy facilities (4 blue)				••••
Recycling containers are larger than dumpsters (1 blue)				•
Responsible purchasing practices (2 green, 2 yellow, 2 red)	••	••	••	
Green procurement is routine and drives product manufacturer responsibility (8 green, 3 yellow, 6 red)	••••• •••	•••	••••• •	
80% reduction in paper usage (3 green, 1 yellow)	•••	•		
Zero waste (2 green, 1 yellow, 1 red, 1 blue)	••	•	•	•
Composting facilities tailor-made to institutional needs (1 yellow)		•		
Number of landfills reduced by 50% (no dots)				

B. Actions

	Green	Yellow	Red	Blue
No trash cans in offices				●●●●
Adopt Canadian model for janitorial contract: custodians pick up recyclables at each desk, employees take trash to central station			●●●	
Cut back on paper usage – i.e., copies		●	●	
Culture change through education	●●●●● ●●●●●	●●		
Legislative support	●●			
Make recycling profitable	●●●●			
Market development – reduce cost of recovery	●	●	●●	
Technological advancements are needed	●	●●●●● ●	●	
Product and packaging stewardship	●●●	●●	●	
State and local government supported waste reduction programs	●	●●●●	●●●●●	

C. Policies

For State Government: All institutions must have a waste reduction plan in place by XX/XX/XX.

For Institutions: A solid waste reduction program shall be developed and implemented in accordance with the statewide plan.

Theme 2. Role of Government

A. Visions, year 2026

	Green	Yellow	Red	Blue
Clean air and water		●●●	●	
Greater profit when less waste is landfilled and when more material is recycled	●	●●●●●	●●	
Federalize all trash haulers				●●●●● ●●●●● ●●●●● ●●●●●
Aquatic systems support a wide variety of life				
Integrated into education system	●●●●● ●●●●		●●●●	
Government mandates regarding solid waste management are no longer necessary			●●●●	●●
Institutions are providing leadership in solid waste management	●●●●	●●●●● ●●	●●	
Government sponsored recycling program paid for by tipping fees	●●●			●

B. Actions

	Green	Yellow	Red	Blue
Provide goals (not mandates) for the private sector and set example		●●		
Increase education from kindergarten through college	●●●●● ●●●●●	●●●●	●●	
Education for the general public		●●●●	●	
Pass laws, develop rules and get appropriations			●	●●●●● ●●●●
Provide additional federal, state, local and private sector support for research	●	●●		
Enforce existing laws and increase inspections	●●	●●●	●●●●	
Provide for financial support		●	●	
Government needs to show need for change to get public support	●			●

added by other group member:
Institutional leadership: provide awards (recognition) to institutions that have exemplary programs (& financial rewards)

C. Policies

For State Government: Develop standardized curriculum and statewide guidelines for evaluation

For Institutions: Their policy will be to provide support and/or implement curriculum

Theme 3. Economics and Procurement

A. Visions, year 2026

	Green	Yellow	Red	Blue
Commercially viable mining of all landfills in Missouri			●	●
Greater profit when less waste is landfilled and when more material is recycled	●	●●●●●	●●	
Complementarity between waste generators and users of waste		●	●●●●●	
Cost of products include recycling costs	●	●●	●●	
Responsible purchasing practices	●●	●●	●●	
Green procurement is routine and drives product manufacturer responsibility	●●●●● ●●●	●●●	●●●●● ●	
Government mandates regarding solid waste management are no longer necessary			●●●●	●●
Government sponsored recycling program paid for by tipping fees	●●●			●

B. Actions

	Green	Yellow	Red	Blue
Mandate recycling costs into product pricing. Manufacturers purchase expired products.	●●			●●●●● ●●●●● ●●●●●
Improve technology for more economical means to manufacture recyclable products	●●●●	●●		
Educate administration and users			●	
Mandatory recycled content in products		●●●	●	●
Institutional policy-makers mandate green procurement				
Develop model contracts for solid waste management services that provide financial incentives for reduction and recycling	●			
Develop financial incentives for closed-loop markets	●●	●●●●	●●●●● ●●	
Increase partnerships between educational, social service and recycling communities	●	●●	●	
Changes in marketing focus/packaging	●●	●	●●●	

C. Policies

For State Government:

Economics – State grants provide higher priority to projects that promote partnerships between educational, social service and solid waste organizations.

Procurement - State develops model procurement policies and contracts for institutions to use to support closed loop markets.

For Institutions:

Economics – Institutions adopt policies that enable partnerships between educational, social service, and solid waste organizations.

Procurement - Institutions adopt procurement policies to encourage closed-loop markets.

Theme 4. Education - Public Awareness – Lifestyle

A. Visions, year 2026

	Green	Yellow	Red	Blue
Laidlaw truck on display at museum				
Recycling containers are larger than dumpsters				●
Integrated into education system	●●●●● ●●●●	●●●●● ●	●●●●	

Green procurement is routine and drives product manufacturer responsibility	●●●●● ●●●	●●●	●●●●● ●	
Government mandates regarding solid waste management are no longer necessary			●●●●	●●
Happy solid waste management personnel and public at large				
80% reduction in paper usage	●●●	●		
Institutions are providing leadership in solid waste management	●●●●	●●●●● ●●	●●	

B. Actions

	Green	Yellow	Red	Blue
Missouri Assessment Program – [includes] component covering resource management		●●	●	
Waste management added to teacher education programs	●			
Department of Natural Resources' funds resource management education and supports with infrastructure (i.e. equipment, facilities, supplies, personnel)	●●●●●			
Graduates of 4 year, community college, technical school or any post secondary school, [required to take] one environmental education course.	●		●	
Education of institutional leaders (i.e. CEOs, CFOs) of environmental principals and economics of resource management		●●●●	●●●	
Adult education	●			
Legislation				●●●●● ●●●●● ●●●●●
Waste management vs. Resource management – change reference to the positive			●●●	
Public ad campaigns			●●●	
Resource management tied to health and safety		●●●		●
Public endorsement by local, state, county govts.		●	●●	
Mechanism for sharing good practices		●	●	
Awards / recognition of excellence in resource management		●●●	●	
Pay by the unit for waste generated				

added by other group members:
MDNR and Dept. of Elementary and Secondary Education establish memorandum of agreement on solid waste education
MDNR and Dept. of Higher Education develop memorandum of agreement on solid waste education

C. Policies

For State Government: Department of Natural Resources' funds resource management education and supports with infrastructure (i.e. equipment, facilities, supplies, personnel)

For Institutions: Education of Institutional leaders (i.e. CEOs, CFOs) of environmental principals and economics of resource management

What is Missing?

IWSG members were asked to review the plan input and list important concepts or actions that they feel are missing:

- Goals and targets
- Where is funding coming from?
- Public education in policy statements
- Waste identification
- Waste audits are needed.
- Comprehensive plan is needed.
- Focused only on institutions, not general public. Plan is doable and cost is borne by institutions and price of goods increases and is passed on to consumer.
- Appropriate legislation.
- What is already “out there” and how it can impact plan implementation.
- Data collection—mechanisms; holes in current process?
- Additional ideas—Resource Management vs. Waste Management
- How? Implementation. Transition.
- Understanding waste streams of institutions.
- Role of government is unclear. Leadership? Communications? Mandates?
- Annual reporting on progress—quantifiable results (i.e., deadlines).
- Development of standardized education through the Department of Education. MDNR should provide expert guidance to educators.

3. Question and Answer Session

At the end of the workshop, the members of the IWSG were asked questions by the department's staff. This question and answer session allowed staff to get clarification on Vision, Action or Policy statements or to address issues that did not arise during the workshop. IWSG members were encouraged to discuss and summarize their answers, which were recorded on flip charts for their review.

1. Under the “Reduced Waste” theme, legislative support/action is listed; an example?
Place waste management hierarchy into statute (places reduction first, followed by reuse, recycling and composting, with disposal as the least desirable approach). Use state plan development process to develop recommendations for legislation, more specifically as the building blocks for potential legislation.

2. How do you feel that developing recycling markets reduces cost of recycling?
Better markets to recover costs, market development through better marketing of equipment to reduce costs.
3. What is meant by state and local government supported waste reduction and recycling programs?
Local government needs to buy into and spend money/resources on waste reduction and treat as a service or utility, not an amenity.
4. The state should come up with an institutional solid waste plan for all institutions. How should this happen? What legislation would be needed?
State would mandate that institutions have a waste reduction plan by a certain date. State would provide technical assistance and models. A communication network would be created to provide information to institutions. If you have a goal, at a minimum, make the achievement or non-achievement meaningful. Positive reinforcement for achieving goals.
5. Any more comments on legislation?
Use data the state has to create models.
6. Who is responsible for developing a solid waste curriculum?
Create partnerships among state agencies to coordinate education efforts. Create structures to implement partnerships between education agencies and state agencies to achieve natural resources conservation goals.
7. Should we educate administration and users?
Yes.
8. Can you expand on how partnerships improve economics?
(there was a discussion, but no answer was documented)
9. How should DNR fund the proposed educational activities and recycling equipment and supplies, with existing funds or a new revenue source?
Target educational activities in the project grants (state waste reduction and recycling grants, funded by the Solid Waste Management Fund). Include education activities for CEO/CFOs and workers.
10. What do you envision as endorsement by city, county, state governments?
A concentrated effort by elected or appointed city officials to support reduction and recycling and inform public of their support.
11. Why no further discussion of the “Green Planning” or “Environment” themes?
Feel that they are enveloped into the other four themes.

12. In the list of Visions, why not be more specific, such as examples of how waste would be managed in one type of institution, e.g. prisons?

Prisons should compost their waste. Share best practices within each institution type through statewide focus groups.

13. What about reuse?

Feel that the visions and actions stated include reuse as well as recycling.

Appendix 1

Institutional Waste Stakeholder Group

The following individuals participated in the October 10-11, 2001, work session to provide input for the Missouri Solid Waste Management Plan on managing solid waste from institutions.

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TIMELINES

Members of the Institutional Waste Stakeholders Group and DNR Solid Waste Management Program staff participated in a Timeline exercise at the start of the work session. In this exercise, everyone was asked to jot down significant events on a series of timelines. The three timelines were labeled Personal, National and Solid Waste Management. This exercise helped the group get to know each other, warm-up for the tasks to come and gain some perspective on the relationships of these three areas of their lives.

TIMELINE HEADING	1930's	1940's	1950's	1960's	1970's	1980's	1990's – Now
PERSONAL	Dad's stories Grandparents' stories Parents born I was born!	Born Origin of "Planned Obsolescence" Grandparent's farm Start of baby boom 1 st birthday War time Paper drives Birthday Father in WWII Awareness of world affairs	Drive-in movies Rock & Roll Tornadoes Easy life DOB '54 Chevy Working on farm Started school Bee-Bop Born Moved to farm DOB Working on farm Working on farm	High school College, marriage, kids '57 Chevy Convertible Brother in Vietnam Father in Vietnam Rock & roll Army, Vietnam, Africa High school No Vietnam protests Vietnam protest 1 st car Lived in South America College & graduate school Draft Trained as scuba diver (Navy) '67 Chevelle SS Card parties with grandparents TV dinners Ms. Sims environmental class	Married Family time Married Married No drive-in movies City manager Race relations Graduation High school graduation 1 st child US Navy Army Vietnam 1 st pay checks Started this job Son born College Summers at the beach	Came to America Career change & divorce US Citizenship Kids born Daughter born "Free love" Gone too quick Began working in Solid Waste Married & kids Started a business Children born Work Work VCP 1 st child Raised the "Mary Rose" Work Marriage Disco Daughter born Moved Start of environmental career	Current job Current job EPA Solid Waste Cruise Grandchildren Started a business 1 st Grandchild Moved to Missouri Graduated from college Empty household Working & Fishing Concerned times Job change Married/divorced Still alive Son born Went on safari with brother & sister Career change Served in Gulf War More work Children Retirement Divorced Importance of peace Retirement 1 wife, 4 kids, quit smoking

TIMELINE HEADING	1930's	1940's	1950's	1960's	1970's	1980's	1990's – Now
NATIONAL	Depression WPA Social Security Dust Bowl Poor medical care Waste not – want not CCC Threshing crews Dr. William Beebe finds fish-deep underwater	WWII Atomic energy Rationing War efforts Economic boom Truman rocks Suburbs start	Rock & Roll Silent Spring- Rachel Carson Highways Suburbia and the car Growing economy Television Korean war Baby boom Polio vaccine	ML King assassination Riots Antiwar protest Drugs Kennedy assassinations Space program Beatles Vietnam Moon landing Awareness of pesticides dangers Hippies do your own thing Travel	Environmental movement starts Earth Day-EPA Man on moon Nixon End of Vietnam Iran hostages World economic 3 Mile Island	Business as usual Music went bad Disco yetch Yuppies Concern with hazardous waste Reaganomics Challenger explosion Oli North Good life Titanic found	September 11 SUVs Cell phones Gulf war Stock market rise & fall ATMs Health issues Peace breaks out Urban sprawl-awareness What are we doing to our environment? Computers and the Internet MO Stream Team Program began Euro money system Privatize everything
SOLID WASTE MANAGEMENT	Reduce, reuse, recycle was the norm Rag collectors Bulk products Ditches-dumping on undesirable land Local landfills	Feed trash to hogs -cause vesicular anathema Disposable = fashionable, affordable, convenient Massive war output Lots of room – no concern Metal drives	Television advertising Throw-away goods Open dumps Recycle glass bottles rebate Bottle deposits No need to save	Silent Spring People start using the word ecology My 91 year old grandmother introduced me to composting Disposing of televisions TV dinners Too much stuff -what are we willing to change The free waste society	Closed dumps Started landfills 1 st Earth Day Super Fund – Times Beach Columbia deposit law Mercury in Fish River Concern – pollution, noise, as well as products	Early large recycle efforts start Recycling program began Fast food Tipping fees to fund grants/recycling and waste reduction Garbage barge Fresh Kills landfill Infectious waste rules Chernobyl Mobro barge leaves New York MO SW Study Starting to worry about more people, more waste	Personal computers SB 530, Recycling and the economy Responsible for recycle program Waste reduction 1 st Conservation office began D.O.C. tire recycling Sub Title D Began to empower students Focus on sustainability America/Mo. Recycles Day Solid waste districts Waste impacts on climate change Buy recycled Hopefully willing to make changes Bio-reactor landfills State plan process begins Stan moves from SWCP to SWMP Resource efficiency Tire fee/waste tire issues Target grants

APPENDIX F

STAKEHOLDER GROUP INPUT

3. Construction and Demolition Waste Stakeholder Group

Construction and Demolition Waste Stakeholder Group Draft Plan Input

On April 17-18, 2002, members of the Construction and Demolition Waste Stakeholder Group (C&DWSG) participated in a two day work session. The purpose of this work session was to bring together individuals with diverse viewpoints and experiences regarding construction and demolition solid waste management so that, through a facilitated process, they would provide input for the Missouri Solid Waste Management Plan. The session facilitators were Mr. Jerry Wade and Mr. John Tharp, with University of Missouri Extension and Outreach. Staff from the Missouri Department of Natural Resources' Solid Waste Management Program attended, mainly as observers and to manage meeting logistics.

Agenda

The general agenda for the work session was posted:

- 1. Timelines**
- 2. Action Planning**
 - A. Purpose**
 - B. Values and Beliefs**
 - C. Visions**
 - D. Vision Themes**
 - E. Actions**
 - F. Policy**
- 3. Questions and Answers**

1. Timelines

Members of the C&DWSG and the department's Solid Waste Management Program staff participated in a Timeline exercise at the start of the work session. In this exercise, everyone was asked to jot down significant events on a series of timelines. The three timelines were labeled Personal, National and Solid Waste Management. The C&DWSG members were asked to review the timelines and list the dominant themes in each. This exercise helped the group get to know each other, warm-up for the tasks to come and gain some perspective on the relationships of these three areas of their lives. The results of this exercise are found in Attachment 2.

2. Action Planning

A. Purpose

C&DWSG members were asked to draft a *Purpose Statement* expressing the reason(s) for developing a Construction and Demolition solid waste management plan. The statement should help guide the development of plan components.

The *Purpose Statement* developed by the C&DWSG:

The purpose of a Construction and Demolition solid waste management plan is to provide for a quality environmental future meeting minimum health, safety and aesthetic standards in a fair, equitable and economical manner.

B. Values and Beliefs

Following development of the purpose statement, C&DWSG members were asked to express their *Values and Beliefs* regarding management of construction and demolition solid waste. The values and beliefs put forth should reflect the principles and guiding factors that undergird people's decisions and actions.

This step helped each member think about the foundation for their own decision making, as well as that of the larger group or society as a whole. Developing the purpose, values and beliefs as a group helped the stakeholders build a common ground of understanding and a realization that "we are all in this together."

The values and beliefs expressed by members of the C&DWSG were these:

- Compliance achieved via incentives is preferable to compliance achieved via regulation
- People have a right to a healthy environment
- A c&d solid waste management plan for Missouri should be economically feasible for communities
- Waste reduction is good
- Every effort should be made to get broad participation and buy-in by the industry
- A cornerstone for handling c&d materials should remain the waste management hierarchy – reduce, reuse, recycle
- C&d waste is an important environmental issue
- The plan should be practical
- The plan should include education on how to protect the environment
- The plan should be enforceable

C. Visions

Vision tells us where we are going; it is our overall sense of direction, the destination. The C&DWSG was asked to imagine the type of construction and demolition waste management system that would be in place in the year 2027, assuming that the best construction and demolition waste plan had been developed and implemented between now and then. The end product of this activity is a series of vision statements. Ultimately, the Vision process is fruitful when it leads to development of specific actions that will enable the visions to be realized.

The complete list of vision statements follow:

Visions for the year 2027

Every community has a plan and is responsible for elimination of its own waste
Widespread use of plasma arch technology and material recovery to reduce landfill airspace usage
Industry is using recyclable material in its processing and packaging
Clean highways and county roads
All lakes and streams are clean
Recycling is a highly profitable business
Incinerators use the heat generated to produce electricity
The built environment has reverted to the soaring grandeur of classical architecture
New buildings are smart, artistic, & green, connected by mass transit.
Old buildings are preserved where possible.
If not preserved, old buildings are deconstructed and unusable materials are recycled or composted.
Old lands are re-developed and new lands are developed w/ ecosystem and social environment as prime goals
Regulation and enforcement are obsolete
All c&d waste is reused or recycled
Landfills are mined profitably for their resources
Everyone recycles as a routine
All dump sites are cleaned up
There are flowers along all highways
Population growth has occurred over the current development footprint (urban renewal)
Environmentally safe incinerators are destroying a large percentage of remaining waste
Sustainable buildings are built that reduce or eliminate c&d waste
Entire communities built largely with reused and recycled materials
Many more homes and buildings built without irreparable harm to the environment
A healthy and prosperous environment

D, E and F. Visions, Actions and Policies Organized by Themes

Vision Themes, or clusters, are groupings of visions with some thread of commonality. Some vision statements can be linked to more than one theme. The C&DWSG came up with five themes under which the majority of vision statements would naturally fall. These were:

1. **Environmental / Aesthetics**
2. **Economics / Sustainability**
3. **The 3 R's – Reduce, Reuse, Recycle**
4. **Landfill Management**
5. **Technology**

The vision themes could then become the connection to action. In a sense, vision themes can be viewed as action areas. *Actions* are the things that need to be done to move from the present toward one or more of the visions in a vision theme. In solid waste management, many of the needed actions in turn indicate a need for a change in policy or adoption of new *Policies*. For this reason, policies are listed separately from other types of actions.

Group members chose one theme to work with, forming five smaller groups. Each of the five groups developed a list of actions under their chosen theme. Following this step, the groups wrote policy statements they felt were necessary to implement the most important actions in their list.

At this point, the group was asked to prioritize the action statements. Each member was given dots of each color listed below to indicate action statements they supported, or those that they personally felt should be eliminated. By limiting the number of dots each participant could use, this process forces the individual to choose which action statements they feel are most important. The following section of this document lists the vision statements which each group felt were strongly associated with the theme, followed by the actions and policies that were proposed.

Green Dot = most important	Yellow Dot = important	Red Dot = support, but not as important as Green, or Yellow	Blue Dot = eliminate
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Theme 1. Environmental / Aesthetics

D. *Visions for the year 2027 associated with this theme*

Clean highways and county roads
All lakes and streams are clean
Environmentally safe incinerators are destroying a large percentage of remaining waste
There are flowers along all highways
A healthy and prosperous environment
The built environment has reverted to the soaring grandeur of classical architecture
All dump sites are cleaned up
Everyone recycles as a routine

E. Actions

	Green	Yellow	Red	Blue
Education	••••			
Enforce and enhance littering laws			•••	
Develop horizontal air barrier technology to keep warm air near the floor in high ceilinged indoor spaces				
Expand the Adopt-a-Highway program				
Incentive to promote recycling and use		•	•	
Convenient recycling opportunities			•	
Each county make illegal dump site cleanup routine				
Organize committees for environmental cleanup				
SWMP form a partnership with all counties to develop recycling program.				
Develop inexpensive alternative building materials with aesthetic performance equal to traditional building materials				
Develop physical incentives for preserving and restoring old buildings (residential, institutional and commercial)				

added by other group members:				
Promote eco-industrial parks to take advantage of waste and product streams and reduce hauling charges.				

F. Policies

- To educate our school children in the definition of solid waste, how to manage it, and the importance of solid waste cleanup to have a healthy environment.

Theme 2. Economics / Sustainability

D. Visions for the year 2027 associated with this theme

Recycling is a highly profitable business
Regulation and enforcement are obsolete
Industry is using recycled/recyclable material in its processing and packaging.
New buildings are smart, artistic, & green, connected by mass transit.
Old buildings are preserved where possible; if not preserved, old buildings are deconstructed and unusable materials are recycled or composted.
Old lands are re-developed and new lands are developed with ecosystem and social enrichment as prime goals.
Landfills are mined profitably for their resources.
Sustainable buildings are built that reduce or eliminate c&d waste.
Many more homes and buildings built without irreparable harm to the environment.

Theme 2. Economics / Sustainability (continued)

E. Actions

	Green	Yellow	Red	Blue
Provide incentives/regulations for: - historic preservation - building deconstruction and bulk material recycling - design and construction by LEED standards (LEED stands for Leadership in Energy and Environmental Design. The LEED Green Building Rating System is a voluntary program of the US Green Building Council.) - market development and publicity	•	••	• ••	
Tax on consumption vs. current system of state income tax and property tax.	•			
Feasibility/economic impact study	••			
Long term strategic plan with transitional phases				
Implement comprehensive system of targeted tax incentives for recycling research and development and compliance		•	•	
Incentives for 3 R's (reduce, reuse, recycle)		•••••		
Education			••	
Sustainable approach utilizing technology to deal with what is currently considered waste.			•	

added by other group members:
Environmental impact study prior to development

F. Policies

For State Government:

- Comprehensive, long term strategic plan (environmental, economic)
- Information summary for all building construction to highlight available incentives on environmental building technologies/efficiency
- New tax incentives for construction and demolition waste removal and reuse that is environment-friendly

For Local Government:

- New tax incentives for construction and demolition waste removal and reuse that is environment-friendly

Theme 3. The 3 R's – Reduce, Reuse, Recycle

D. Visions for the year 2027 associated with this theme

Recycling is a highly profitable business
Every community has a plan and is responsible for elimination of its own waste
Incinerators use the heat generated to produce electricity
Industry is using recyclable material in its processing and packaging
All c&d waste is reused or recycled
Landfills are mined profitably for their resources
Sustainable buildings are built that reduce or eliminate c&d waste
Entire communities built largely with reused and recycled materials
Everyone recycles as a routine
Old buildings are deconstructed and unusable materials are recycled or composted.

E. Actions

	Green	Yellow	Red	Blue
Education of public on recycling – - logo contest - motto/slogan that can be remembered and readily repeated	••••	•	•••	
Financial incentives – - grants - tax credits - direct payments	•• •	•• •• •••		
Public/Private partnerships – - ongoing technical support - direct hands-on - fund stakeholder training		•	•••	
Research and development of new materials				

added by other group members:				
Don't forget mandatory regulations				••••• ••••• ••••• •

F. Policies

- Financial incentives on federal, state and local levels
 - fair distribution of funds
 - ensure that smaller communities have equitable access to funds
- Fund stakeholders in order to provide technical/mentoring input in support of educational efforts at the local level.

Theme 4. Landfill Management

D. Visions for the year 2027 associated with this theme

Every community has a plan and is responsible for elimination of its own waste
Industry is using recyclable material in its processing and packaging
Landfills are mined profitably for their resources
Entire communities built largely with reused and recycled materials
A healthy and prosperous environment
All dump sites are cleaned up

E. Actions

	Green	Yellow	Red	Blue
Tax incentives/benefits for recycling companies, haulers, builders, products		•		
All landfills required to have material recovery program (with permit)				
Funding – research for new recycling and recovery – long term plan			••	
Education – waste recovery, RRR – required (Make landfill a good/positive concept)	•••			
Funding risky new ventures				
Participation in rule development and policies				
Global thinking – i.e. site cleanup, NIMBY – out of sight				
Comprehensive waste destination list				
Use regulation as a means to develop RRR				

F. Policies

For State Government:

- Special conditions and permits for recovery of material, site specific conditions
- Require education
 - general publications
 - training/seminars regulatory
 - policy to commit to education as part of all grant awards
 - increase public awareness of information sources, i.e. web pages, hotline, toll free number, public announcements
- Offer more funds for grants for research and development
- Offer more funds for grants for venture business
- Policy on tax incentives for using and creating recycled goods
- Eliminate tax incentives for virgin materials

Theme 4. Landfill Management *(continued)*

F. Policies *(continued)*

For Local Government:

- Local enforcement of state policies agreed upon at state/local levels
- Increase local awareness of available recovery sites
- Offer easy access to c&d material recovery facility
- Incentives to create material recovery facilities (state/local issue)
- Local recycling laws encourage reduced waste, i.e. pay-as-you-throw collection fees
- Incentives to source separate on c&d site or at landfill

Theme 5. Technology

D. Visions for the year 2027 *associated with this theme*

Widespread use of plasma arch technology and material recovery to reduce landfill airspace usage
Incinerators use the heat generated to produce electricity
Industry is using recyclable material in its processing and packaging

E. Actions

	Green	Yellow	Red	Blue
Public education about new technology				
Incentives for industry to develop technology	•		•	

added by other group members:				
Move beyond research and development to applications			•	
Develop horizontal air barrier technology to keep warm air near the floor in high ceilinged indoor spaces	•			
Comprehensive research and development into improved efficiency, lower cost of mining landfills and reuse and deconstruction practices.		•	•	
Continue developing inexpensive alternative building materials with aesthetic performance equal to traditional building materials.				

F. Policies

For State/Federal Government:

- All new products developed must include a plan for reuse or disposal in an environmentally safe manner.
- Priority incentives will go to products that meet above criteria.

What is Missing?

C&DWSG members were asked to review the plan input and list important concepts or actions that they feel are missing:

- Bigger and better financial incentives to fund new recycling and to reward those already doing it right
- Plan must be economically viable
- Take actions to encourage purchase of recycled materials
- Tax incentives should move from virgin materials to recycled materials
- Action steps into education – community based marketing – collect data to see where people are at
- Make it as easy as possible for people to take desired action
- Educating children regarding solid waste management which will get adults (parents) more involved

3. Question and Answer Session

At the end of the workshop, the members of the C&DWSG were asked questions by the department's staff. This question and answer session allowed staff to get clarification on Vision, Action or Policy statements or to address issues that did not arise during the workshop. The notes taken by department staff follow:

1. One of the proposed actions under the Landfill Management theme calls for "Participation in rule development and policies." What type of participation would you like to see?

Participation and input from stakeholders and/or landfill owners

2. What is meant by the "Global thinking – i.e. site cleanup, NIMBY – out of sight" listed under the Landfill Management theme? (NIMBY stands for not-in-my-backyard, a common description of peoples attitudes that they want some place to take their trash, but don't want it located near them)

It is important for people to understand that landfills are a positive necessity and that they fit into an integrated waste management system.

3. Can you tell us more about the type of educational efforts indicated under the Landfill Management theme?

Besides the basic principles of "reduce, reuse, recycle" consumers should be educated to buy products made from 100% recycled materials in order to create markets for recyclables. They need to better understand the economics of recycling.

4. Elaborate on the "Tax on consumption" proposed under the Economics / Sustainability theme. Much of the solid waste generated is packaging, disposable products, and other products which are disposed of relatively quickly. Having a tax on consumption, as opposed to the current system of state income tax and property taxes, would place more of the tax burden on those who purchase more products.

5. Under the Environment / Aesthetics theme, there is a proposal for the plan to form a partnership with all counties to develop recycling program. Why do you see this as important?

This proposal was added because it is very important to involve the counties in creating local programs. The county can more easily work with local governments and other entities. One suggestion for local programs would be to expand the adopt-a-highway program to other environmental areas.

6. Under the Economics / Sustainability theme, a policy for a comprehensive, long term strategic plan (environmental, economic) is proposed. How can both environmental and economic aspects be addressed?

One way is to partner recycling incentives with economic development incentives. For example, when businesses are assisted by the Department of Economic Development, they could be required to include a plan for recycling in their business plan.

7. Several of the proposed actions or policies would involve financial incentives. Do you have any recommendations for funding these?

In some cases the incentive might be a tax exemption or other mechanisms for reducing costs which do not require the state to spend money. For those incentives which would require funding above the current tonnage fee that goes to the Solid Waste Management Fund, the group did not have any specific recommendations.

During the work session, a discussion took place which was not a part of the agenda, but which is important to include in this document. Staff from the Solid Waste Management Program proposed that a state wide building code be adopted. This was thought to be a way to increase the life span of buildings through quality standards, theoretically reducing the amount of waste generated through demolition. If the building is properly designed and constructed, it should last longer. This building code may also provide specifications for using alternative building materials which conserve resources or contain recycled content.

Several work group members expressed their concerns with the concept of a state wide building code. They pointed out that in practical terms, this could cause a great deal of added time and expense to the construction process. Where local building codes are in place, there are many steps throughout the process which require approval and/or inspection from the department of code enforcement. If implemented from a state office in the capitol, the builder would need to travel to Jefferson City every time an approval is required. The cost to provide state employees to implement the codes from each county and many cities would be enormous.

The group members suggested this approach: "Local municipalities should be given the authority to adopt their own building codes, with financial incentives to use alternative materials."

Appendix 1

Construction and Demolition Waste Stakeholder Group

The following individuals participated in the April 17-18, 2002, work session to provide input for the Missouri Solid Waste Management Plan on managing solid waste from institutions.

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Trella Ward, Zoning/Code Enforcement

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TIMELINES

Members of the Construction and Demolition Waste Stakeholders Group and DNR Solid Waste Management Program staff participated in a Timeline exercise at the start of the work session. In this exercise, everyone was asked to jot down significant events on a series of timelines. The three timelines were labeled Personal, National and Solid Waste Management. The C&DWSG members were asked to review the timelines and list the dominant themes in each. This exercise helped the group get to know each other, warm-up for the tasks to come and gain some perspective on the relationships of these three areas of their lives.

TIMELINE HEADING	1930's	1940's	1950's	1960's	1970's	1980's	1990's – Now
PERSONAL	My house was built, no building codes	Mom went to war Birth	Birth Grew up in Alaska Birth '51 Flood '59 Tornado Birth Birth	High schools - moved around the country Birth Birth High school & College High school Family party in back yard burning trash My mom "The Original Recycler" made us wash alum. foil for reuse USAF	US Citizenship College-marriage Marriage Birth Graduated H.S. US Army Married College Marriage High school College /marriage /children Marriage /college /Houston /graduation Me	Start private business Back to the workforce College College Children Education Purchased 1 st home Had child Family College	Grandchildren Flood Children grown – left nest College/Marriage Children Start business Started working at DNR Interest in solid waste Change careers Became involved in C&D waste reuse Career change to trash (of all things) Cancer survivor Graduate RN School and BAS Human Service Marriage /carriage

Themes in the Personal Timeline:

- Birth
- Education
- Careers
- Marriage – family
- Home purchase
- Weather disasters
- Foreign invasion
- Grandchildren
- Survival

TIMELINE HEADING	1930's	1940's	1950's	1960's	1970's	1980's	1990's – Now
NATIONAL	Depression starts New deal-work programs FDR	W.W.II A-Bomb Harry Truman (Mo) Women worked Berlin Wall up	Baby Boomers Korean War McCarthyism Highways go national Elvis! (some) Women back at home T.V.	JFK assassinated Vietnam Charles Manson murders Women return to the workforce The Beatles Civil rights Malcom X, Martin Luther King, Robert Kennedy assassinated Bay of Pigs- nuclear threats Hippies Weed Moon walk	Watergate Vietnam/Anti-War protests ERA Gasoline crisis Roe v Wade 1 st Earth Day Elvis dies (maybe) Consciousness expanded Disco Family farms endangered	Gulf war Ronald Reagan Corporate takeovers Computer revolution Digital Berlin Wall goes down Exxon Valdez	Terrorism Y2K Internet Clinton presidency- Redefinition of “is” Cell phones

Themes in the National Timeline:

- More familiarity with events of the 60's and 70's
- Growth in government
- Issues come in cycles (repetitive)
- Wars (constant)
- Continuous (multi-decade) events
- Job cycles rotate
- Progressive technology (innovation)
- Increasing concern with resource shortage
- Business growth
- Population growth
- Prolonged economic expansion

TIMELINE HEADING	1930's	1940's	1950's	1960's	1970's	1980's	1990's – Now
SOLID WASTE MANAGEMENT		War effort - recycling Development of petrochemical industries	Legislation passed regarding solid waste MO County option dumping law Feeding trash to pigs Wastewater TD Municipal dumps	Beautification – awareness of littering CWA, CAA>RMN Still burning in back yard	DNR was born SW Mgmt Law City dump closed Love canal EPA established Columbia deposit ordinance is born	Installed waste incinerator at hospital Removed waste incinerator at hospital Recycling picks up again Superfund Farming exemption	Started in Solid Waste SB 530 Recycle center built St. Louis Habitat started first C&D reuse/resale retail operation Fed. Subtitle D regs Centralized landfills Flow control found unconstitutional HHW Plastics up; Metals down Started recycle program Target grants Heart of America Green Builder program - KC CRTs and CPUs Very confused, Yikes Electronics Columbia deposit ordinance dies Biomass

Themes in the Solid Waste Management Timeline:

- Necessity is the Mother of Invention
- Awareness increases with each generation
- Government responsibility increases with each decade
- Population grows – so do the challenges
- Learning experience for the world – rules change constantly
- Convenient society – 2 wage earners increased need for ...
- Disposables increased as technology thrived
- Administrative controls not in place early enough

APPENDIX F

STAKEHOLDER GROUP INPUT

4. Commercial Waste Stakeholder Group

Commercial Waste Stakeholder Group

Draft Plan Input

On May 29-30, 2002, members of the Commercial Waste Stakeholder Group (CWSG) participated in a two day work session. The purpose of this work session was to bring together individuals with diverse viewpoints and experiences regarding commercial solid waste management so that, through a facilitated process, they would provide input for the Missouri Solid Waste Management Plan. The session facilitators were Mr. Jerry Wade and Mr. John Tharp with University of Missouri Extension and Outreach. Staff from the Missouri Department of Natural Resources' Solid Waste Management Program attended, mainly as observers and to manage meeting logistics.

Agenda

The general agenda for the work session was posted:

- 1. Timelines**
- 2. Action Planning**
 - A. Purpose**
 - B. Values and Beliefs**
 - C. Visions**
 - D. Vision Themes**
 - E. Actions**
 - F. Policy**
- 3. Questions and Answers**

1. Timelines

Members of the CWSG and the department's Solid Waste Management Program staff participated in a Timeline exercise at the start of the work session. In this exercise, everyone was asked to jot down significant events on a series of timelines. The three timelines were labeled Personal, National and Solid Waste Management. The CWSG members were asked to review the timelines and list the dominant themes in each. This exercise helped the group get to know each other, warm up for the tasks to come and gain some perspective on the relationships of these three areas of their lives. The results of this exercise are found in Attachment 2.

2. Action Planning

A. Purpose

CWSG members were asked to draft a *Purpose Statement* expressing the reason(s) for developing a Commercial Solid Waste Management Plan. The statement should help guide the development of plan components.

Purpose

The purpose of the Commercial Solid Waste Management Plan is to protect the environment by encouraging the conservation of natural resources and the reduction of solid waste.

B. Values & Beliefs

Following development of the purpose statement, CWSG members were asked to express their *Values and Beliefs* regarding management of commercial solid waste. The values and beliefs put forth should reflect the principles and guiding factors that undergird people's decisions and actions.

This exercise helped each member think about the foundation for his or her own decision making, as well as that of the larger group or society as a whole. Developing the purpose, values and beliefs as a group helped the stakeholders build a common ground of understanding and a realization that "we are all in this together."

The values and beliefs expressed by members of the CWSG were these:

- We believe in the future of our environment and continuing to protect it
- The plan should support businesses and communities with obvious benefits for both
- Environmental concerns and economic growth cannot be considered separately (enviro-economics)
- Incentives to reduce, reuse, and recycle
- The plan should be easily implemented and understood by educating all stakeholders
- The plan should contribute to conserving natural resources and sustaining the environment
- Stewardship of natural resources should be a fundamental business practice
- Plan should include long term goals to develop and achieve economic feasibility
- The plan should facilitate government and businesses to work cooperatively to develop integrated commercial solid waste management programs

C. Visions

Vision tells us where we are going; it is our overall sense of direction, the destination. The CWSG was asked to imagine the type of commercial solid waste management system that would be in place in the year 2027, assuming that the best commercial solid waste plan had been developed and implemented between now and then. The end product of this activity is a series of vision statements. Ultimately, the Vision process is fruitful when it leads to development of specific actions that will enable the visions to be realized.

At a later point in the process, the group was asked to prioritize the vision statements. To do this, each member was given green, yellow, red and blue dot stickers to indicate statements they supported, or those that they personally felt should be eliminated. A key to how the different colors were used is given below. By limiting the number of dots each participant could use, this process forces the individual to choose which statements they felt were most important. Since vision statements may be made that are not supported by others in the group, this process also provided a means to express their opposition. The complete list of vision statements follows, including the dots they received (note: some statements did not receive any dots).

Green Dot = most important	Yellow Dot = important	Red Dot = support, but not as important as Green or Yellow	Blue Dot = eliminate
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Visions for the year 2027

	G	Y	R	B
More businesses saving money by reducing waste	●●●●● ●●	●●●●	●	●
Educated consumers and businesses decontaminating recyclables	●●●●	●	●	
A stable recovery market	●●●●			
A closed loop system replacing waste as resources by commercial businesses in our communities and zero waste	●●●	●●	●●	
Recycled materials implemented in all classrooms	●●●		●	
Collection systems for businesses that are convenient and affordable	●●	●●	●●●●● ●	
State has achieved 98% waste reduction	●	●●●●	●	
New business development using waste to make new products	●	●●●	●●●●	
A 50% reduction in paper, paperboard, cardboard, wood, aluminum, plastics, going to landfills	●	●	●	
All trucks are recycling trucks	●			
Profitable, competitive closed-loop 100% recycled or reuseable materials in retail stores	●			
Economics will have changed making 3 Rs (reduce, reuse, recycle) the rule not the exception		●●●●	●●●●	
Recycling and compaction drop-off facilities in rural counties		●●●●		
Bioreactive landfills		●●		
Every commercial enterprise will have an environmentally sound business plan		●	●●	
Recycling bins have replaced trash cans			●●●	
Closed landfills are used as natural resources			●	
There are no roll-offs or dumpsters that are greater than 8 yd ³				●
Healthier people and less lazy people that want to recycle				●
Higher taxes on disposable items				●●●●●
Electronic speeding tickets				●●●●● ●●●●● ●●●●● ●
Clean roadsides and right-of-ways				
People safely drinking from lakes and streams				
Communities powered by waste, not coal				

Visions for the year 2027 (continued)

Trees, lots of them				
Consumption of only renewable resources				
Vehicles powered by compost				
Degradable packaging				
Recycled content clothing that performs and feels like natural fibers				
Consumers demand manufacturer stewardship in product packaging and design (educate)				
Government at all levels lead by example				
Centrally located recycling compaction sites				

D, E and F. Visions, Actions and Policies Organized by Themes

Vision Themes, or clusters, are groupings of visions with some thread of commonality. Some vision statements can be linked to more than one theme. The CWSG came up with five themes under which the majority of vision statements would naturally fall. These were:

- 1. Economic Development (includes market development and job opportunities)**
- 2. Business Development and Practices**
- 3. Education**
- 4. Resource Sustainability and Technology**
- 5. Environment/Health/Abundant Resources**

The vision themes could then become the connection to action. In a sense, vision themes can be viewed as action areas. *Actions* are the things that need to be done to move from the present toward one or more of the visions in a vision theme. In solid waste management, many of the needed actions in turn indicate a need for a change in policy or adoption of new *Policies*. For this reason, policies are listed separately from other types of actions.

Group members chose one theme to work with, forming six smaller groups. Two groups chose to work on Education, two groups chose to work on Economic Development, however no interest was shown in working on the Environment/Health/Abundant Resources theme. Each group developed a list of actions under their chosen theme. At this point, all group members were given the colored dots described above to indicate support or opposition to vision statements or proposed actions.

Following this step, each group wrote policy statements they felt were necessary to implement the most important actions in their list: policies for the public or state government and policies for the commercial establishments of associated organizations. This document lists the vision statements as they were grouped under the four themes, followed by the actions and policies that were proposed.

Theme 1. Economic Development

D. Visions for the year 2027 associated with this theme

	G	Y	R	B
A stable recovery market	••••			
Collection systems for businesses that are convenient and affordable	••	••	••••• •	
Consumption of only renewable resources				
Degradable packaging				
Economics will have changed making 3 Rs (reduce, reuse, recycle) the rule not the exception		••••	••••	
More businesses saving money by reducing waste	••••• ••	••••	•	•
New business development using waste to make new products	•	•••	••••	
Profitable, competitive closed-loop 100% recycled or reuseable materials in retail stores	•			
Recycled bins have replaced trash cans			•••	
A closed loop system replacing waste as resources by commercial businesses in our communities and zero waste	•••	••	••	
Recycled content clothing that performs and feels like natural fibers				

E. Actions

	G	Y	R	B
Centrally located compaction systems for communities	•			
Reuse waste for energy	••••	•••		
Detailed case studies with how-to advice				
Create more recycled products		•••		
State sponsored advertising	•	••	•	
Start with high value items (e.g. OCC, Metals)				
Business subsidies encouraging use of recycling markets		•		
Huge recognition programs for waste reduction				
Require product stewardship	••••		•	
Mandate recycle bins in all public places				
Support (**proven) struggling end markets (**with potential) with targeted grants		••	••	
Copy those who are recycling effectively	•			
Higher cost for landfill disposal			•	•••• ••••
Surcharge excessive packaging			•	

Theme 1., E. *Actions (continued)*

Target grants for new market research and development (**only after reviewing current research and results. Don't reinvent the wheel)	•	•	••••• •	•
More research to develop or use energy from renewable resources				
Use more biodegradable fibers in products				
Mandate the use of recyclables in the in the public sector			•	•••
Buy recycled to stimulate market			••	

**added by member of a different group

F. *Policies*

Public/State

- State & local governments to offset cost with cash incentives for products diverted from the waste stream to achieve a stable recovery market.
- Public awareness and accessibility to alternatives to waste disposal (i.e., recycling sites).
- State should give purchasing preference to recycled and/or renewable products made in the state of Missouri.
- Provide tax incentives for development of new recycled product.

Commercial/Organizations

- Establish new packaging alternatives and promote recyclable or reusable products.
- Affordable solutions to recovery and reuse of recycled products (i.e., energy).
- Annual waste audits to identify recyclables.
- Preference to procurement of recycled products from Missouri.

**All commercial sources have to participate

**Incentive to reuse, recycle / disincentive to dispose (ingrain as cost of doing business)

**added by member of a different group

Theme 2. Business Development & Practices

D. *Visions for the year 2027 associated with this theme*

	G	Y	R	B
More businesses saving money by reducing waste	••••• ••	••••	•	•
Collection systems for businesses that are convenient and affordable	••	••	••••• •	
All trucks are recycling trucks	•			
Profitable, competitive closed-loop 100% recycled or reuseable materials in retail stores	•			

Theme 2., D. *Visions for the year 2027 (continued)*

Bioreactive landfills		••		
Vehicles powered by compost				
Degradable packaging				
Recycled content clothing that performs and feels like natural fibers				
A 50% reduction in paper, paperboard, cardboard, wood, aluminum, plastics, going to landfills	•	•	•	
Economics will have changed making 3 Rs (reduce, reuse, recycle) the rule not the exception		••••	••••	
Recycling and compaction drop-off facilities in rural counties		••••		
Every commercial enterprise will have an environmentally sound business plan		•	••	
Recycling bins have replaced trash cans			•••	
There are no roll-offs or dumpsters that are greater than eight cubic yd				•

E. *Actions*

	G	Y	R	B
Tax incentives for businesses and production companies (use post-consumer materials)		••		
Incentives for re-use or in-kind gift receipt		•		
Grant monies for start-ups, along with low-interest loans		•		
Provide/promote environmentally sound business planning assistance		•		
Additional surcharge or tax to pay for systems				•
Educational program to educate businesses (grants, etc.)				
Market development grants/loans	•••••	•••	••	
Legislative goal of 50% reduction in commercial waste stream				
Local taxes to support facilities in local communities				
Building and reconstruction permits require environmental aspect before issued				

F. *Policies*

Public/State

- To encourage and promote waste reduction by businesses via financial incentives for market development.
- To increase the manufacture and use of products made from recycled materials.

Commercial/Organizations

- To reach the decision-makers in the boardrooms in regard to the environment.
- Active promotion and information sharing of environmentalism as good business practices.

Theme 3. Education

D. Visions for the year 2027 associated with this theme

	G	Y	R	B
Clean roadsides and right-of-ways				
Educated consumers and businesses decontaminating recyclables	••••	•	•	
Every commercial enterprise will have an environmentally sound business plan		•	••	
Healthier people and less lazy people that want to recycle				•
People safely drinking from lakes and streams				
Recycled materials implemented in all classrooms	•••		•	
A 50% reduction in paper, paperboard, cardboard, wood, aluminum, plastics, going to landfills	•	•	•	
Recycling bins have replaced trash cans			•••	

E. Actions

	G	Y	R	B
Integrate environmental education into all classrooms			••	
Set-up a state agency/committee to reach the schools and businesses, to train and [provide] outreach to manufacturers				•
Invite all business managers to tour a landfill			•	
Incorporate recycling programs for Clean Water Act	••			
Companies donating all of their by-products to teacher recycle centers or recycling centers instead of landfills				
Implement environmental PSA's into all electronic media (including DVD-video games)				•
Invite public to tour recycle centers				
Early childhood environmental education		•	•	
Advertisements of where recycle centers are and how to use them			•	
Partner with media to educate reporters on environmental issues		••		
Offer tax breaks to businesses/corp. for cutting waste	•		•	
Recycle bins/containers in all schools/accessible (parks-public place)				
PR/spokespeople/conferences open to the public				
Initiate neighborhoods/community leaders on how to informally educate others on importance of the 3 R's				
Sponsor a state CEO summit to educate business leaders				
Initiating monthly reports to companies on the pounds of waste/trash they deposit into the landfills			•	•
Audits to companies/how much could have been recycled				
Develop statewide educational marketing plan				
Get buy-in from education/business consumers and media to implement plan			•	
Create user-friendly materials for each group				

Theme 3., E. *Actions (continued)*

**Mandate c/o of recycled supplies to be used in govt. funded schools	•	•	•	
**Innovative marketing to achieve creative packaging in order to reduce excessive packaging				
**(added to above action) through consumer education that creates demand for less				

** added by member of a different group

F. *Policies*

Public/State

- Provide education information on how to reach targeted waste reduction goals.
- Prior to *any* legislation, obtain appropriate stakeholder input.
- Develop statewide curriculum to be implemented into all levels of education beginning in early childhood —integrated into all courses.
- Require all municipalities to develop a SWM plan

Commercial/Organizations

- Corporate mission statements should reflect responsibility to the consumer and community for environmental stewardship.
- Commercial entities shall investigate saving money by reducing waste.
- Develop corporate environmental philosophy and instill corporate practices and pride/ownership to employees during orientation and ongoing programs.
- Develop awareness programs that would inform consumers and businesses of mutually beneficial options of reuse of consumable products – market/display successes.

Theme 4. Resource Sustainability and Technology

D. *Visions for the year 2027 associated with this theme*

	G	Y	R	B
More businesses saving money by reducing waste	•••• •••	••••	•	•
A closed loop system replacing waste as resources by commercial businesses in our communities and zero waste	•••	••	••	
Collection systems for businesses that are convenient and affordable	••	••	•••• ••	
All trucks are recycling trucks	•			
Profitable, competitive closed-loop 100% recycled or reuseable materials in retail stores	•			
Bioreactive landfills		••		
Closed landfills are used as natural resources			•	

Theme 4., D. *Visions for the year 2027 (continued)*

Electronic speeding tickets				●●●●
Communities powered by waste, not coal				
Trees, lots of them				
Consumption of only renewable resources				
Vehicles powered by compost				
Degradable packaging				
State has achieved 98% waste reduction	●	●●●●	●	
Recycled content clothing that performs and feels like natural fibers				

E. *Actions*

	G	Y	R	B
Include energy use plans in new landfill permit		●	●	
Acquire federal and state funds through effective planning to get money for technical research				
Plant 1-tree/person/month				
Educate				
Require deposits on all packaging material to encourage return				●●
Tree replacement programs	●			
Tax credits for renewable energy/recycling/reuse	●●●	●		
Grants to access funds that implement research tech. (compost powered vehicle)	●			
Set-up funding closing/capping landfills				●●
Current oil producers must start understanding and producing equipment and techniques to insure sustainability				
Government appointed task force, including private sector, not-for-profit and government, to market and promote environmental technology and reuse	●			
Track/meter landfill technology use				

F. *Policies*

Public/State

- Make economic resources available to fund research.
- State and local governments will take leadership role in implementing the use of available technology for resource conservation (3R's).

Commercial/Organizations

- Commercial organizations must devote a percentage of income to promote product stewardship.
- E.M.S. (Environmental Management Systems) will include a provision for resource conservation.

Note:

In addition to the policy statements, the Education Theme group added this:

How/Why we think this is important – because it provides statewide direction in SWM from the bottom up with diverse stakeholders represented.

3. Question and Answer Session

At the end of the workshop, the members of the CWSG were asked questions by the department's staff. This question and answer session allowed staff to get clarification on Vision, Action or Policy statements or to address issues that did not arise during the workshop. It should be noted that some responses were given by one or more group members, while some represented a group consensus. The notes taken by department staff follow:

1. In the Actions listed for Theme 2, please explain what is meant by “in-kind gift receipt” as an incentive for reuse?

A business can donate used equipment, furniture, etc., to a not-for-profit organization and receive an in-kind gift receipt. The federal government has a process for this type of donation which could be the model for the state. This would encourage the reuse of these items, since the business can use the donated value as a tax deduction. Promote similar things at state level for businesses. Representative from Surplus Exchange said they could provide a copy of the form they use for this type of donation.

2. In the Actions listed for Theme 2, grant money for start-ups are recommended. Did the group intend this to be for a specific type of activity?

We did not intend to focus this on only one type of activity. This would include grants to help existing businesses begin a recycle, reuse, etc., program or for new businesses to manage recycled materials.

3. Many of these recommendations will require funding from the state. Would you recommend increasing the tonnage fee?

Either a reallocation or additional surcharge on solid waste could address funding.

4. One of the Actions under Theme 4 is “Plant 1 tree/person/month.” How do you see this being implemented?

No single entity was recommended to take the lead on this. A good model is the Santa Fe, NM, program where they try to protect the environment through local ordinances and grow only native plants and trees.

5. Expand on the Action under Theme 4 regarding oil producers.

Government should try to create incentives to encourage oil companies to manufacture new/alternative fuels. Used oil burners should be used to provide heat.

6. In the Actions for Theme 1, the reuse of waste for energy is listed. What type of waste?

No specific one. Use not-marketable, non-recyclable items for energy (i.e., coated cardboard). Use yard waste/biomass to make ethanol.

7. Discuss the Action under Theme 1 which would create business subsidies encouraging the use of recycling markets?

Trash haulers pass increased costs onto consumers. Recyclers cannot pass costs on and when markets fall, recycling facilities close. Grant funds need to be set aside to stabilize markets for recyclers (like what is done for farmers). Some felt market development is more important; we need recycling markets closer to collections in our area. Need laws to get programs going.

8. How would a requirement for product stewardship (Actions under Theme 1) be implemented through legislation?

Yes. Advertising success stories (i.e., Bass Pro computer program) would help. Use model programs to help others.

9. What is meant by the Action under Theme 3 which says to incorporate recycling programs into the Clean Water Act?

This could make companies more aware of stewardship—tying water quality into all issues.

10. Does the Action under Theme 3 regarding a statewide educational marketing plan refer to educating the public?

Educate the public, educators, and businesses. Get the word out.

Appendix 1

Commercial Waste Stakeholder Group

The following individuals participated in the May 29-30, 2002, work session to provide input for the Missouri Solid Waste Management Plan on managing solid waste from commercial establishments.

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TIMELINES

Members of the Commercial Waste Stakeholders Group and DNR Solid Waste Management Program staff participated in a Timeline exercise at the start of the work session. In this exercise, everyone was asked to jot down significant events on a series of timelines. The three timelines were labeled Personal, National and Solid Waste Management. The CWSG members were asked to review the timelines and list the dominant themes in each. This exercise helped the group get to know each other, warm-up for the tasks to come and gain some perspective on the relationships of these three areas of their lives.

TIMELINE HEADING	1930s	1940s	1950s	1960s	1970s	1980s	1990s – Now
PERSONAL	Lake Ozark Grocery Store Mom born	Born Born B-Day 1946 Parents Married College with WWII Vets	Born Born Born Born Born 1951-US Army Law School '53- '56 Springfield Married 1957 Born Born Born Born	Went to Vietnam Went in the Navy Went to Army & Graduated High School High School Grad. Born Born Born Born Born Birth Celebrated 1 st Earth Day while in College Came to USA Girl Scouts gave me appreciation of outdoors	Went back to Vietnam High School and College Graduation 1 st Job High School Grad. Married Daughter born College Grad. 1971 Born Born Born 1 st new car College Graduation '77 College Graduation '72 Birth of Kids Married - kids Born	Retired from USN Seabees Got married Married Daughter born Married Graduated from college Married Graduated from high school and college Graduated from high school and college Married 1989 Career Daughter born High school Kids Kid Graduated college Married and daughter #1 High school Arrived from Scotland	Loss of father '90 Began working in/with environmental programs Birth of children Graduated - began work in recycling Birth of children Started in environmental business Started working in recycling Started new career Established Service Recycling Had 3 kids College Children Started to work in recycling College grad/graduate school Married/kids Changed careers at 45 Kids Daughter #2 Teaching 1995 Started waste hauling business Retired from Chrysler – took job with solid waste-feel guilty about the waste at Chrysler now Married/children Grandkids born

TIMELINE HEADING	1930s	1940s	1950s	1960s	1970s	1980s	1990s – Now
NATIONAL	The Depression Social Security Bagnel Dam, Lake of the Ozarks development	WWII W.P.A. Industrial revo- lution Birth of Baby Boomers (1950s too)	Elvis 57 Chevy Korean War Suburbs Life	Vietnam More government policy-making Rock & Roll Civil Rights move- ment Beatles Start of Urban Flight Vietnam (war?) and Protest JFK EPA - Laws Flower Power	Computer technology 1 st Earth Day Campus unrest – Kent State Keep America Beautiful	“Me” generation Clear Pepsi CD & Video players Bad fashion Fax machine Throw-away society	Flood DOT Com OK City Bombing Tower (2 mi. sq. at base) of garbage burned in Manilla Desert Storm Soccer Moms MORA Lots of information technology - no new information Cell phones Generation Xers Sept. 11 th
SOLID WASTE MANAGEMENT	Garbage haulers started Trash fed to hogs	Tire & scrap metal drives	1 st Solid Waste Management for Missouri	Rachel Carson – “Silent Spring” Illegal dumping survey found 2,600 dumps in MO.	Missouri DNR created Landfill management The 3 R’s Resource reduction – gas shortage, environmental awareness Earth Day U-City began recycling EPA created	RCRA written Residential recycling started Haz waste co’s started reducing waste generated EPA starts to enforce RCRA SARA/CERCLA CAA Large consolidated waste industry	Jeff / St. L. Cnty / St. L. City SW ordinance 1993 Reduce/Reuse/Recycle major emphasis OCC \$200 p/ton 1990 Landfill surcharges implemented Target grants Small landfills disappear Consolidation of trash co. Residential recycling trends Commercial paper markets open-up in far East, then die Landfill bans Subtitle D-Landfills Bridging the Gap and Choose Envir Excellence Yard waste, tires, and major appliance landfill ban St. Louis Teacher’s recycle center opens High recycling prices U. City 1 st electronic recycling event

APPENDIX F

STAKEHOLDER GROUP INPUT

5. Industrial Waste Stakeholder Group

Industrial Waste Stakeholder Group Draft Plan Input

On October 16-17, 2002, members of the Industrial Waste Stakeholder Group (IWSG) participated in a two day work session. The purpose of this work session was to bring together individuals with diverse viewpoints and experiences regarding industrial solid waste management so that, through a facilitated process, they would provide input for the Missouri Solid Waste Management Plan. The session facilitators were Mr. Jerry Wade and Mr. John Tharp with University of Missouri Extension and Outreach. Staff from the Missouri Department of Natural Resources' Solid Waste Management Program attended, mainly as observers and to manage meeting logistics.

Agenda

The general agenda for the work session was posted:

- 1. Timelines**
- 2. Action Planning**
 - A. Purpose**
 - B. Values and Beliefs**
 - C. Visions**
 - D. Vision Themes**
 - E. Actions**
 - F. Policy**
- 3. Review**
- 4. Questions and Answers**

1. Timelines

Members of the IWSG and the department's Solid Waste Management Program staff participated in a Timeline exercise at the start of the work session. In this exercise, everyone was asked to jot down significant events on a series of timelines. The three timelines were labeled Personal, National and Solid Waste Management. The IWSG members were asked to review the timelines and list the dominant themes in each. This exercise helped the group get to know each other, warm up for the tasks to come and gain some perspective on the relationships of these three areas of their lives. The results of this exercise are found in Attachment 2.

2. Action Planning

A. Purpose

IWSG members were asked to draft a *Purpose Statement* expressing the reason(s) for developing an Industrial Solid Waste Management Plan. The statement should help guide the development of plan components.

Purpose

The purpose of an industrial solid waste management plan is to enhance Missouri as a good place to live and work by providing guidance for sound proactive environmental practices that support a positive economic environment.

B. Values & Beliefs

Following development of the purpose statement, IWSG members were asked to express their *Values and Beliefs* regarding management of industrial solid waste. The values and beliefs put forth should reflect the principles and guiding factors that undergird people's decisions and actions.

This exercise helped each member think about the foundation for his or her own decision making, as well as that of the larger group or society as a whole. Developing the purpose, values and beliefs as a group helped the stakeholders build a common ground of understanding and a realization that "we are all in this together."

The values and beliefs expressed by members of the IWSG were these:

- Strong rural and urban economy – and its promotion.
- We believe in a healthy environment for the state.
- Proactive solid waste management is good business.
- We believe in obtaining and using continued input from stakeholders.
- Government resources and incentives should be used to facilitate better management of industrial waste.
- Industry and government must cooperate.
- Business has an inherent responsibility to be a good corporate citizen.
- The state has an obligation to protect the health and welfare of its citizens, communities, and industries.

C. Visions

Vision tells us where we are going; it is our overall sense of direction, the destination. The IWSG was asked to imagine the type of industrial solid waste management system that would be in place in the year 2027, assuming that the best industrial solid waste plan had been developed and implemented between now and then. The end product of this activity is a series of vision statements. Ultimately, the Vision process is fruitful when it leads to development of specific actions that will enable the visions to be realized.

The complete list of vision statements follows:

Visions for the year 2027

- ◆ 100% recyclable products
- ◆ All materials are recycled or reused
- ◆ All waste products are placed in recycle/reuse containers
- ◆ Balanced utilization of resources
- ◆ Design for recyclability is industry norm
- ◆ Diversified economy
- ◆ Environmental regulations are in a notebook, not a bookcase
- ◆ Everyone involved in industrial solid waste management has integrity, is honest and is having fun
- ◆ Industry uses by-products as raw materials
- ◆ Industry uses predominately renewable energy resources
- ◆ Landfill fees are \$100 per ton
- ◆ Landfills will be called resource recovery repositories
- ◆ Life cycle management is a part of product development
- ◆ Product and packaging take-backs by manufacturers
- ◆ Regulators will be transformed into facilitators
- ◆ Reusable shipping platforms
- ◆ Waste = food (raw materials)
- ◆ Waste exchanges and recycling will be the norm, landfills will be the last resort
- ◆ We see closed-loop industrial processes and industrial parks
- ◆ We will be mining old landfills
- ◆ Zero emissions

D, E and F. Visions, Actions and Policies Organized by Themes

Vision Themes, or clusters, are groupings of visions with some thread of commonality. Some vision statements can be linked to more than one theme. The IWSG came up with five themes under which the majority of vision statements would naturally fall.

Themes:

- 1. Landfills**
- 2. Waste as Raw Material (Recycling)**
- 3. Life Cycle Management**
- 4. Promoting Mutual Goals**
- 5. Waste Management Economics**

The vision themes could then become the connection to action. In a sense, vision themes can be viewed as action areas. *Actions* are the things that need to be done to move from the present toward one or more of the visions in a vision theme. Some group members expressed concern that some of the values and beliefs are not represented by vision statements. They decided to

develop the recommended actions with the list of values and beliefs in mind as well as the vision statements.

Group members chose one theme to work with, forming six smaller groups. Each group developed a list of actions under their chosen theme. When these lists were completed, group members were encouraged to review each other's lists and add any important actions they felt were missing.

Following this review, the group was asked to prioritize the action statements. To do this, each member was given green, yellow, red and blue dot stickers to indicate statements they supported, or those that they personally felt should be eliminated. A key to how the different colors were used is given below. By limiting the number of dots each participant could use, this process forces the individual to choose which statements they felt were most important. Since actions may be proposed that are not supported by others in the group, this process also provided a means to express their opposition.

Green Dot = most important	Yellow Dot = important	Red Dot = support, but not as important as Green or Yellow	Blue Dot = eliminate
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In solid waste management, many of the needed actions in turn indicate a need for a change in policy or adoption of new *Policies*. After developing actions and , each group wrote policy statements they felt were necessary to implement the most important actions in their list: policies for the public or state government and policies for the industrial establishments of associated organizations.

The following section lists the vision statements as they were grouped under each theme, followed by the actions and policies that were proposed.

Theme 1. Landfills

D. Visions for the year 2027 associated with this theme

- ◆ 100% recyclable products
- ◆ Everyone involved in industrial solid waste management has integrity, is honest and is having fun
- ◆ All materials are recycled or reused
- ◆ We will be mining old landfills
- ◆ Waste exchanges and recycling will be the norm, landfills will be the last resort
- ◆ Landfill fees are \$100 per ton
- ◆ Landfills will be called resource recovery repositories
- ◆ Product and packaging take-backs by manufacturers
- ◆ All waste products are placed in recycle/reuse containers
- ◆ Industry uses by-products as raw materials
- ◆ Diversified economy

E. Actions

	G	Y	R	B
\$\$\$ to recycling companies and industrial companies				•
Higher landfill fees to encourage recycling and provide \$\$ for #1	•		•	
Implementation of an easily accessed waste exchange, which all industries are registered			•	
More education to the public/industries about landfills and recycling				
Spiritual awakening				••••• ••
Legislation to direct solid waste management in a positive path for the future			••	
Encourage product development advancement				
Added by members of other theme groups:				
Set landfill fees at level which reflect actual short/long term costs				•••••
Design future landfills as planned resource recovery facilities		•	•	
Collection is recycling based				
Landfill mining research to identify future opportunities				
Streamline process of using landfills as an energy source				
Transfer/landfill/recycling sited together at one facility				

F. Policies

Industry:

Adopt pro-active attitude toward waste management

State:

Promote waste management opportunities

Theme 2. Waste as Raw Material (Recycling)

D. Visions for the year 2027 associated with this theme

- ◆ Waste = food (raw materials)
- ◆ We see closed-loop industrial processes and industrial parks
- ◆ Design for recyclability is industry norm
- ◆ Reusable shipping platforms
- ◆ 100% recyclable products
- ◆ All materials are recycled or reused

D. Visions for the year 2027 associated with this theme (continued)

- ◆ We will be mining old landfills
- ◆ Waste exchanges and recycling will be the norm, landfills will be the last resort
- ◆ Product and packaging take-backs by manufacturers
- ◆ All waste products are placed in recycle/reuse containers
- ◆ Industry uses by-products as raw materials

E. Actions

	G	Y	R	B
Incentives for recycling (grants, loans, tax incentives)	•			
Program to match streams of waste to appropriate end uses (promote and increase waste exchange programs)	••••• •	••		
Promote standardization of packaging components (Missouri, USA, North America)				
All economic \$ (development) should go with resource management info.		•		
Promotion and education of recycling and sound solid waste management practices by both industry and government				
Added by members of other theme groups:				
Develop markets for recycled goods	•	••		
Reduce regulatory roadblocks which discourage by-products being used as raw materials in cement kilns				
Use industry reps to help promote recycling/source separation techniques (e.g. workshops, etc.)				
Develop “transfer stations” for recyclables		•		

F. Policies

Industry:

Reduce material to landfill by X% per year in a cost effective manner

State:

Rewards and promotion for companies that adopt and implement waste reduction policies

Theme 3. Life Cycle Management

D. Visions for the year 2027 associated with this theme

- ◆ Balanced utilization of resources
- ◆ Industry uses predominately renewable energy resources
- ◆ Life cycle management is a part of product development

D. Visions for the year 2027 associated with this theme (continued)

- ◆ Landfills will be called resource recovery repositories
- ◆ Waste = food (raw materials)
- ◆ Design for recyclability is industry norm
- ◆ Reusable shipping platforms
- ◆ 100% recyclable products
- ◆ All materials are recycled or reused
- ◆ Product and packaging take-backs by manufacturers
- ◆ Industry uses by-products as raw materials

E. Actions

	G	Y	R	B
Create an MDNR/AIM information database and clearinghouse			•	
Develop and implement a state managed “carrot/stick” program	•			•
Obtain statewide industrial commitment to product life cycle initiatives			•	
Promote mutual goals, objective, and programs to achieve an adaptive re-use market/economy	•	•	••	
Create a public (govt) facilitation unit (i.e. TAP)				
Educate consumers that life cycle designed products are worth it				
Added by members of other theme groups:				
Create university degree program that encompasses “lifestyle management” theme. Encourage development of lifecycle management/engineering as a profession by creating industrial and govt positions in the field		•	•	•••
Define life cycle management				

F. Policies

Industry:

It is the policy of the company to implement a product stewardship program based on economic based design for the environment and life cycle management

State:

It is the policy of the state to promote waste elimination programs by working with industry to facilitate their life cycle initiatives

Theme 4. Promoting mutual goals

D. *Visions for the year 2027 associated with this theme*

- ◆ Environmental regulations are in a notebook, not a bookcase
- ◆ Regulators will be transformed into facilitators
- ◆ Diversified economy
- ◆ Industry uses by-products as raw materials

E. *Actions*

	G	Y	R	B
Streamline laws and regulations to allow regulators to facilitate to the vision	••		••	
Outreach programs to be developed as a 2-way street				
Foster cooperation between industry and government by implementing stronger rewards and recognition		••	••	
Commercially viable recycling industry through venture capital from comm/govt/industry	•	••	••	
Added by other theme group members:				
Develop rural commission to help promote industries to rescue declining areas, much in the same way we “rescued” our cities during the ‘70s		••		••
Have industry provide training to DNR/District Planners in how to assess industrial process/waste auditing			•	

F. *Policies*

Industry:

Company will search for economical management opportunities before managing by-products as waste

State:

State will streamline laws and regulation and utilize outreach programs to maximize utilization of by-products

Theme 5. Waste Management Economics

D. *Visions for the year 2027 associated with this theme*

- ◆ Landfill fees are \$100 per ton
- ◆ Life cycle management is a part of product development
- ◆ Design for recyclability is industry norm
- ◆ All materials are recycled or reused
- ◆ Diversified economy
- ◆ Industry uses by-products as raw materials

Visions listed under this theme, but not part of original list:

- Promote, develop and maintain a strong rural and urban economy
- Balanced approach to economic development and industrial waste management
- Provide easy access to govt incentives

E. Actions

	G	Y	R	B
Government and industry to develop landfill cost structures that reflect true costs	•			•
Massive promotion of waste management opportunities & incentives – including cross dept databases, research and education	••	•••••	•••	
Form joint DNR/DED task force that identifies incentives that can be provided to Missouri industries which supports economic growth and sound environmental practices	••••	•	•	
Streamline regulations and permitting process to make more easily use by-products and resources	•			
Allocate more funds for market development		•		
Identify, develop and promote resource recovery markets			•	

F. Policies

Industry:

Companies should have EMS that includes annual goals for % waste reduction

State:

It is the policy of the MDNR to form a task group mandated to work with the DED which creates, implements and facilitates economic growth, environmental compliance and environmental protection

3. Final Review

As a final review of the plan developed by the IWSG, about twenty minutes was spent looking over the work they had done during the two day session. Each theme group was asked to respond to three questions. These questions and the responses follow:

What is missing?

Theme 1: Who and how do we implement the plan?

Theme 2: Shift in emphasis from residential to commercial/industrial

Theme 3: State interagency dialog and initiatives; Regulatory (consequence) component; Existing corrective action needs

Theme 4: Integration with general public

Theme 5: Add to visions a more realistic industry and economic outlook

Any additional ideas?

- Theme 1: Emphasize inter-communication between industry and the community
- Theme 2: DNR to review real and perceived road blocks to waste exchange
- Theme 3: Hold a “key player” action plan meeting (MDNR, DED, Community Development, AIM)
- Theme 4: (No additional suggestions)
- Theme 5: Need a list of attendees for follow-up; Would like to know the time-frame of working model for the plan – bring group back together for final review of staff recommendations

What do you think of your plan? Why?

- Theme 1: 6.4 out of 10 – Input came from many sectors, incorporated many ideas. Vague enough not to cause too many problems
- Theme 2: For plans to work, DNR must formulate policies as a group and present back to this group to insure theme is protected
- Theme 3: 6.75 out of 10
- Theme 4: Good prioritization process
- Theme 5: Need to put emphasis on purpose, values and beliefs vs. visions; Visions too much perfect world instead of realism

3. Question and Answer Session

At the end of the workshop, the members of the IWSG were asked questions by the department’s staff. This question and answer session allowed staff to get clarification on Vision, Action or Policy statements or to address issues that did not arise during the workshop. It should be noted that some responses were given by one or more group members, while some represented a group consensus. The notes taken by department staff follow:

1. The “Life Cycle Management” group recommends that the Missouri Department of Natural Resources (MDNR) and the Associated Industries of Missouri (AIM) creating an information database and clearinghouse. What kind of information should be included?

Online links to show the type and amounts of waste an industry has generated, technical information, announcements of workshops or conferences and financial assistance information. The Missouri Recycling Association and AIM could help develop this data base. There are a lot of pollution prevention data bases available, and other information from groups like Choose Environmental Excellence and Bridging the Gap, but these are fragmented. A single clearing house for this information is needed. MDNR could serve as the conduit for this information.

2. What are the best means to get the word out to industries about programs and services that are available?

It would take 5 – 10 key email addresses of individuals or associations who would spread the info further. For example AIM has approximately 1,700 members. Trade journals would be another means. For the agricultural sector, these trade journals would not be as useful. Agricultural organizations may be a better conduit. County extension offices are disjointed and would not be universally helpful in this effort.

3. Under the theme “Promoting Mutual Goals” what is meant by developing outreach programs as two-way streets?

This means that outreach efforts must be proactive, not just reactive. For example, many of the department’s technical assistance is done in response to a direct request. More assistance could be given by contacting businesses instead of waiting for them to contact the department. Planners with the solid waste management districts would also like to work more with industries in their areas.

4. Many of the recommended actions involve providing incentives. With limited funds, what type of incentives should the state offer?

Streamlining or eliminating regulation which hinders the use of waste materials in manufacturing. Streamline processes – it takes too much time for businesses to do it right. Provide capital incentives to help recycling businesses get started. This could include low interest loans.

5. Can you be more specific on how we can encourage recycling market development? Our current program provides money for equipment. (this question was posed by Ms. Kristin Allan, director of the Missouri Market Development Program, EI ERA)

MDNR and the Market Development Program staff should work with the Department of Economic Development. (Ms. Allan pointed out that representatives from DED are on the Market Development Steering Committee) Contact companies to find out if they are interested in marketing their wastes or receiving wastes. Invite recycling businesses to locate in Missouri to take advantage of the material supply here. Additional suggestions were made to increase waste exchange activity, noting that if this is set up as a profit driven business it will be more successful. The profit motive would likely increase the volume and range of material exchanges between businesses. A place or system which consolidates loads from several sources would save the cost of shipping to markets. Businesses need assurance that they would have no future liability for sending waste to a recycler.

Appendix 1

Industrial Waste Stakeholder Group

The following individuals participated in the October 16-17, 2002, work session to provide input for the Missouri Solid Waste Management Plan on managing solid waste from industries.

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TIMELINES

Members of the Industrial Waste Stakeholders Group and DNR Solid Waste Management Program staff participated in a Timeline exercise at the start of the work session. In this exercise, everyone was asked to jot down significant events on a series of timelines. The three timelines were labeled Personal, National and Solid Waste Management. The IWSG members were asked to review the timelines and list the dominant themes in each. This exercise helped the group get to know each other, warm-up for the tasks to come and gain some perspective on the relationships of these three areas of their lives.

TIMELINE HEADING	1930s	1940s	1950s	1960s	1970s	1980s	1990s – Now
PERSONAL	Born 1929 Parent's born Born Post Depression Dad grows up	Born Moved 2 times Born Parents married Parents married WWII '48 US Air Force Dad goes to war	Born (listed by 11 people) Started school Moved 3 times High school and college Dad starts a family, including me	Became hippie Watched hippies Married Born Me too Started school Out of high school Started farming Graduated First breath '68 retires USAF Moved to Calif when dad became a veterinarian I start to think	Graduated Graduated Graduated Spaced it Married - 1 st time Divorced Married - 2 nd time Married Married Divorced Got a haircut Got a job Got a haircut Got a job College College Kids Grad high school Join Navy Married with children First horse Jail Saddle shoes to combat boots	Married Married Married Grad school Grad school Had kids Kids graduated Kids graduated Out of farming Divorced (listed by 5 people) Married Remarried Grandchildren I-70 World Series (go Royals!) Kids born (listed by 6 people) Joined the Army New Wave Start a serious career	Married Adopted daughter Divorced Divorced Married Married Married More kids born More kids born More kids born Grandkids (listed by 4 people) Started in the environ- mental business Got DNR job Married 20 years (listed by 5 people) Married 25 years Married 25 years Married 25 years Boxed at Madison Square Garden Moved to USA Great-grandkid

